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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,830	06/26/2003	Himansu M. Gajiwala	2507-5300.1US (21870-US-0)	7592
24247	7590	11/15/2005	EXAMINER	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			RONESI, VICKEY M	
			ART UNIT	PAPER NUMBER
			1714	
DATE MAILED: 11/15/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/608,830	<b>Applicant(s)</b> GAJIWALA, HIMANSU M.	
	<b>Examiner</b> Vickey Ronesi	<b>Art Unit</b> 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-11, 14-18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) 1-3, 5 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-11, 14-18 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date: _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date: _____  | 6) <input type="checkbox"/> Other: _____                                    |

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### **DETAILED ACTION**

1. The preliminary amendment filed 9/29/2003 is acknowledged and was entered and examined in the Office action mailed 6/30/2005.
2. All outstanding rejections are withdrawn in light of applicant's amendment filed 9/2/2005.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.
4. The new grounds of rejection set forth below are necessitated by applicant's amendment filed 9/2/2005. In particular, claims 7 and 14 have been amended to include specific polymeric organic fillers and the transitional claim language "consisting essentially of". These limitations were not present in the original claims. Thus, the following action is properly made final.

### ***Election/Restrictions***

5. Applicant's election with traverse of the restriction requirement in the reply filed on 9/2/2005 is acknowledged. The traversal is on the ground(s) that the subject matter of the withdrawn insulation material claims is already under consideration by the examiner since the insulation material is recited in the examined claims. This is not found persuasive because the insulation material is in a rocket motor wherein the intermediate product (i.e., insulation material) is deemed to be useful in routine rubber applications including hoses, gaskets, cushions, etc (see paragraph 0037 of applicant's specification) and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants, i.e.,

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it is not considered obvious to use a gasket material as insulation material in a rocket motor with an inner surface and a propellant.

The requirement is still deemed proper and is therefore made FINAL.

### *Claim Objections*

6. Claims 7, 9-11 and 14-18, are objected to because of the following reasons:

With respect to claims 7 and 14, melamine is a small molecule and not a polymeric organic filler.

With respect to claims 9, 11, 16, and 18 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form. In particular, the recited polymeric organic filler “chlorinated hydrocarbon compound” or “at least one chlorine atom per repeat unit” is broader in scope than the organic fillers recited in claims 7 and 14, which are limited to only polyvinyl chloride and a homopolymer of vinylidene chloride.

With respect to claims 10 and 17, they are objected to because in the last line of each claim “and” should be replaced with “or” or “and/or.” As currently written, the conjunctive word “and” suggests all the recited additives yet in the preceding lines the initial phrase “at least one of” is recited which necessitates the use of alternative language, “or” or “and/or.”

With respect to claims 15-18, the insertion of the phrase “consisting essentially of a low-density ethylene propylene diene monomer polymer, at least one flame-retardant, and a polymeric organic filler selected from the group consisting of polyvinyl chloride, polyphenylene

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sulfide, melamine, and a homopolymer of vinylidene chloride” considered to be redundant since the independent claim 14 (on which all claims 15-18 are dependent) recites the exact same language. It is requested that this portion be removed for brevity. As a suggestion, the claims should read as “The method of claim 14, wherein the insulation material further comprises...”

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

7. Claims 7-11, 14-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herring (US 4,878,431) in view of Trask et al (US 4,726,987).

Herring discloses elastomeric insulating materials for rocket motors (col. 2, lines 66-68; col. 7, lines 20-46) comprising crosslinkable elastomeric polymers such as EPDM (col. 3, lines 51-61); polyaramide pulp, i.e., polymeric organic filler, which is used to advantageously promote the formation of a strong, adherent char during propellant burning (col. 3, lines 1-18); organic and inorganic flame retardants (col. 4, lines 41-55); other additive such as plasticizers, tackifier (col. 5, lines 42-51); and curatives such as accelerators and activators (Table A bridging cols. 5 and 6). See Tables C and D and Table 1, column A.

Herring does not explicitly disclose any other polymeric filler as a char-former but it does not exclude the substitution or the additional use of other similar materials.

Trask et al discloses a fire-retardant article and teaches about the benefits of a variety of polymeric fibers for use in fire-retardant articles. In particular, Trask et al teaches that a aramid fibers like utilized by Herring are advantageous for char formations that act as a thermal barrier (col. 2, lines 19-22) and that polyphenylene sulfide is also a char former with outstanding

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chemical resistance, thermal stability, and fire resistance like the polyimides (col. 2, line 61 to col. 3, line 2) and that halogenated polymers like polyvinylchloride are advantageous in fire-retardant applications due to its two-stage degradative process (col. 3, lines 18-28).

Given that polyphenylene sulfide and polyvinylchloride are advantageously used with or as substitutes for a char-former such as polyaramide fibers as taught by Trask et al, it would have been obvious to one of ordinary skill in the art to utilize a polyphenylene sulfide or polyvinylchloride as a char-former in the rocket motor insulation of Herring and thereby arrive at the presently claimed invention.

8. Claims 7-11, 14-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herring (US 4,878,431) in view of Whelan (US 4,246,359).

Herring discloses elastomeric insulating materials for rocket motors (col. 2, lines 66-68; col. 7, lines 20-46) comprising crosslinkable elastomeric polymers such as EPDM (col. 3, lines 51-61); polyaramide pulp, i.e., polymeric organic filler (col. 3, lines 1-18); organic and inorganic flame retardants (col. 4, lines 41-55); other additive such as plasticizers, tackifier (col. 5, lines 42-51); and curatives such as accelerators and activators (Table A bridging cols. 5 and 6). See Tables C and D and Table 1, column A.

Herring teaches the use of flame retardant additives such as chlorinated organic compounds with antimony oxide or hydrated alumina (col. 4, lines 41-55), however, it does not teach the use of a polymeric organic compound such as polyvinyl chloride. Although Herring exemplifies the use of a chlorinated hydrocarbon as the organic compound, note that it does not restrict the use of other chlorinated organic compounds.

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Whelan discloses a flame retardant for hydrocarbon diene rubbers comprising a synergistic combination of a halogen containing organic compound such as polyvinyl chloride, alumina trihydrate, and an iron oxide (col. 1, line 66 to col. 2, line 6). Whelan teaches that the halogen-containing organic compound may be non-polymeric or polymeric, including chlorine-containing polymers, e.g., polyvinyl chloride (col. 3, line 19-25) and that the selection of the appropriate halogen containing organic compound should be consistent with the target physical properties of the finished composition (col. 3, lines 25-33).

Therefore, absent a showing of surprising and unexpected results, it is the examiner's position that it would have been well within the capabilities of one of ordinary skill in the art to utilize an appropriate chlorinated compound in Herring, including those polymeric organic compounds within the scope of the present claims, and thereby arrive at the presently cited claims. Should applicant argue criticality of a polymeric organic compound in the inventive composition, it will be noted that applicant's comparative data provides no probative value to support to such an assertion.

### ***Response to Arguments***

9. Applicant's arguments filed 9/2/2005 have been fully considered but they are not persuasive. Specifically, applicant argues that the combination of Herring and Whelan cannot read on the presently claimed composition with transitional claim language "consisting essentially of".

With respect to applicant's argument, while it is recognized that the phrase "consisting essentially of" narrows the scope of the claims to the specified materials and those which do not

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materially affect the basic and novel characteristics of the claimed invention, absent a clear indication of what the basic and novel characteristics are, “consisting essentially of” is construed as equivalent to “comprising”. Further, the burden is on the applicant to show that the additional ingredients in the prior art, i.e. the iron oxide from Whelan, would in fact be excluded from the claims and that such ingredients would materially change the characteristics of the applicant’s invention, See MPEP 2111.03. Case law holds that “[i]f an applicant contends that additional steps or material in the prior art are excluded by the recitation of ‘consisting essentially of,’ applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant’s invention.” *In re De Lajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964).

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,



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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vickey Ronesi whose telephone number is (571) 272-2701. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/8/2005

vr



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